

Sustainable Energy

Clean, Safe Energy That's Renewable and Efficient

in Ohio

Did you know ... that the price of photovoltaic electricity has dropped dramatically from \$15 per kilowatt-hour in 1975 to less than 25¢ per kilowatt-hour today; the cost of wind energy has dropped over 50%?

And... that Ohio is one of 33 states to offer residential, commercial, or industrial tax incentives for the purchase or use of renewable energy systems?

Jobs in Sustainable Energy

The U.S. Department of Energy's (DOE's) National Renewable Energy Laboratory (NREL) leads the nation in research and development and lab-scale demonstration of sustainable energy technologies. In FY 1997, a total of \$4,724,521 in research contracts, service subcontracts, and procurements was awarded to Ohio organizations by NREL to develop renewable energy and energy efficiency technologies.

NREL's many programs help facilitate technology development with interested consumers and potential partners from industry, business, academia, and the global community. NREL's technologies, which are clean and green, include:

- Photovoltaics
- Wind
- Biofuels
- Biomass power
- Hydrogen
- Superconductivity
- Solar thermal
- Geothermal
- Hybrid vehicles
- Building energy systems
- Industrial applications of solar power.

DOE's Federal Energy Management Program (FEMP) activities could add 193 jobs each year and save people in Ohio \$10.1 million in annual energy costs.

Clean Energy = Clean Environment

The clean electricity generated from renewable energy sources in Ohio from both utility and nonutility generators displaces about 93 tons of carbon dioxide per year (measured in carbon units) that would be emitted by coal-fired power plants.

Between March 1996 and March 1997, the U.S. Environmental Protection Agency's Green Lights and Energy Star programs helped save 500 million kilowatt-hours of energy in Ohio. This saved consumers in the state at least \$36 million in energy bills and prevented more than 950 million pounds of carbon dioxide from entering the atmosphere. Projected cost savings through the year 2000 resulting from energy investments already made is \$132 million.

Economic Benefits

In FY 1996, DOE's Office of Energy Efficiency and Renewable Energy (EE) invested \$209 million in Ohio. Ohio's consumer energy cost savings from EE research and development products are estimated to be more than \$1.1 billion.¹

- Fifty-six businesses in Ohio specialize in renewable energy-related products and services.
- State weatherization programs, aided by federal funding from DOE, helped at least 3,729 low-income and other disadvantaged Ohio families last year.
- Battelle Memorial Institute, of Columbus, has partnered with EE to design an alternate concept for an absorption heat pump with an increase in cooling performance of 30 percent or more. Battelle received \$169,000 from DOE to perform several tasks, including evaluation of novel concepts in advanced absorption heat pumps and verification of computer design models.
- Teams of engineering students and faculty members from the EE Industrial Assessment Center at the University of Dayton and other universities performed

*Did you know...
that 90.4% of
Ohio's
electricity is
generated from
coal, 8.9% from
nuclear power,
and 0.7% from
other sources,
including
petroleum and
hydropower?*

*And...
that Ohio is a
net energy
exporter,
meaning that
more electricity
goes out of the
state than
comes in?*

449 energy assessments in Ohio. These free assessments include recommendations for energy-saving and environmentally friendly technologies and practices at each facility. Small- and medium-sized manufacturers that followed these recommendations have already saved more than \$147 million.

- Wright Patterson Air Force Base in Dayton received FEMP technical assistance to develop an energy savings performance contract for lighting retrofits that will save \$84,000 annually.
- The city of Toledo has been involved in energy management since 1985 and is a municipal leader in Ohio and top-ranked nationally for its programs. Toledo's results are impressive. In its first nine years, the city saved taxpayers \$19 million in avoided energy costs, or approximately 140 million kilowatt-hours. Thanks to its aggressive energy-management programs, Toledo's total utility bill dropped from \$12 million in 1985 to \$10 million in 1994.

Want More Information?

**Office of Energy Conservation
Consumer Hotline**
800-OEC-6662

**Energy Efficiency and Renewable
Energy Clearinghouse (EREC)**
800-363-3732
<http://www.eren.doe.gov>

**National Renewable Energy
Laboratory (NREL)**
800-644-NREL
<http://www.nrel.gov>

**Federal Energy Management
Program (FEMP)**
<http://www.eren.doe.gov/femp/>

**National Association of State
Energy Officials**
<http://www.naseo.org/>

**U.S. Environmental Protection Agency's
(EPA) Green Lights and Energy Star**
<http://www.epa.gov/energystar.html>

¹Based on a GAO review and validation of the energy savings of EE research and development success stories.

Questions?

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National Renewable Energy Laboratory

NREL is a national laboratory of the U.S. Department of Energy (DOE), managed for DOE by Midwest Research Institute

BR-24-709